PMI-AUTOMATION

EMC2 BRIDGEPORT CONVERSION DRAWING LIST			
FILENAME	DESCRIPTION	SHEET	FILEDATE
Title_Sheet	TITLE SHEET	0	9/11/2010
SPINDLE_X_AXIS_POWER	SPINDLE_X_AXIS_POWER	1	9/11/2010
Y & Z_SERVO_POWER	Y & Z_SERVO_POWER	2	9/11/2010
MESA_Control_Power	MESA_Control_Power	3	9/11/2010
VFD_IO	VFD_IO WIRING	4	9/11/2010
MESA_7i33	MESA_7i33 INPUT/OUTPUT WIRING	5	9/11/2010
MESA_7i37	MESA_7i37 INPUT/OUTPUT WIRING	6	9/11/2010
X_AXIS_DRIVE_IO	X_AXIS_DRIVE_IO WIRING	7	9/11/2010
Y_AXIS_DRIVE_IO	Y_AXIS_DRIVE_IO WIRING	8	9/11/2010
Z_AXIS_DRIVE_IO	Z_AXIS_DRIVE_IO WIRING	9	9/11/2010
EMC2_Hardware_Layout	HARDWARE LAYOUT	10	9/11/2010
EMC2_Panel_Layout	PANEL LAYOUT AND BOM	11	9/11/2010

ELECTRICAL REQUIREMENTS FOR THE EQUIPMENT

SUPPLY VOLTAGE: 240VAC, 1 PHASE, 60HZ

TOTAL CONNECTED KVA: __8_____

ESTIMATED FULL LOAD AMPS: ___40___

MAIN FUSE OR BREAKER: ___50___ AMPS

SHORT CIRCUIT WITHSTAND RATING: __42000__ AMPS

UTILITY REQUIREMENTS

AIR:	80	PSI	100 SCFM
STEAM:	N/A	LBS/HR	N/A
WATER:	N/A	GPM	N/A
COOLANT:	N/A	PSI	N/A GPM
GAS:	N/A	PSI	N/A CFM
EXHAUST:	N/A	CFM	N/A

WIRING GUIDELINE

VOLTAGE	COLOR	TYPE	SIZE (Minimum)
208VAC / 600VAC	BLACK	MTW inside panel THHN outside panel	#16 AWG
120VAC	RED	MTW inside panel TFFN outside panel	#16 AWG #16 AWG
INTERLOCKS AND WIRING NOT CONTROLLED BY MAIN DISCONNECT	YELLOW	TFFN / THHN	#22 AWG
24VAC	BLUE w/RED TRACER	MTW inside panel TFFN outside panel	#22 AWG
24VDC (+)	BLUE	MTW inside panel TFFN outside panel	#22 AWG
24VDC (-)	WHITE w/BLUE -OR- BLUE w/WHITE TRACER	MTW inside panel TFFN outside panel	#22 AWG
24VDC INTERLOCKS AND WIRING NOT CONTROLLED BY MAIN DISCONNECT	YELLOW w/BLUE TRACER	TFFN / THHN	#XX AWG
GROUND	GREEN or GRN/YEL	MTW inside panel TFFN outside panel	#18 AWG
120VAC NUETRAL	WHITE -OR- WHITE w/RED TRACER	MTW inside panel TFFN outside panel	#16 AWG #16 AWG

MAIN ENCLOSURE TERMINAL
FIELD J-BOX TERMINAL
FIELD STATION TERMINAL
INTERNAL WIRING

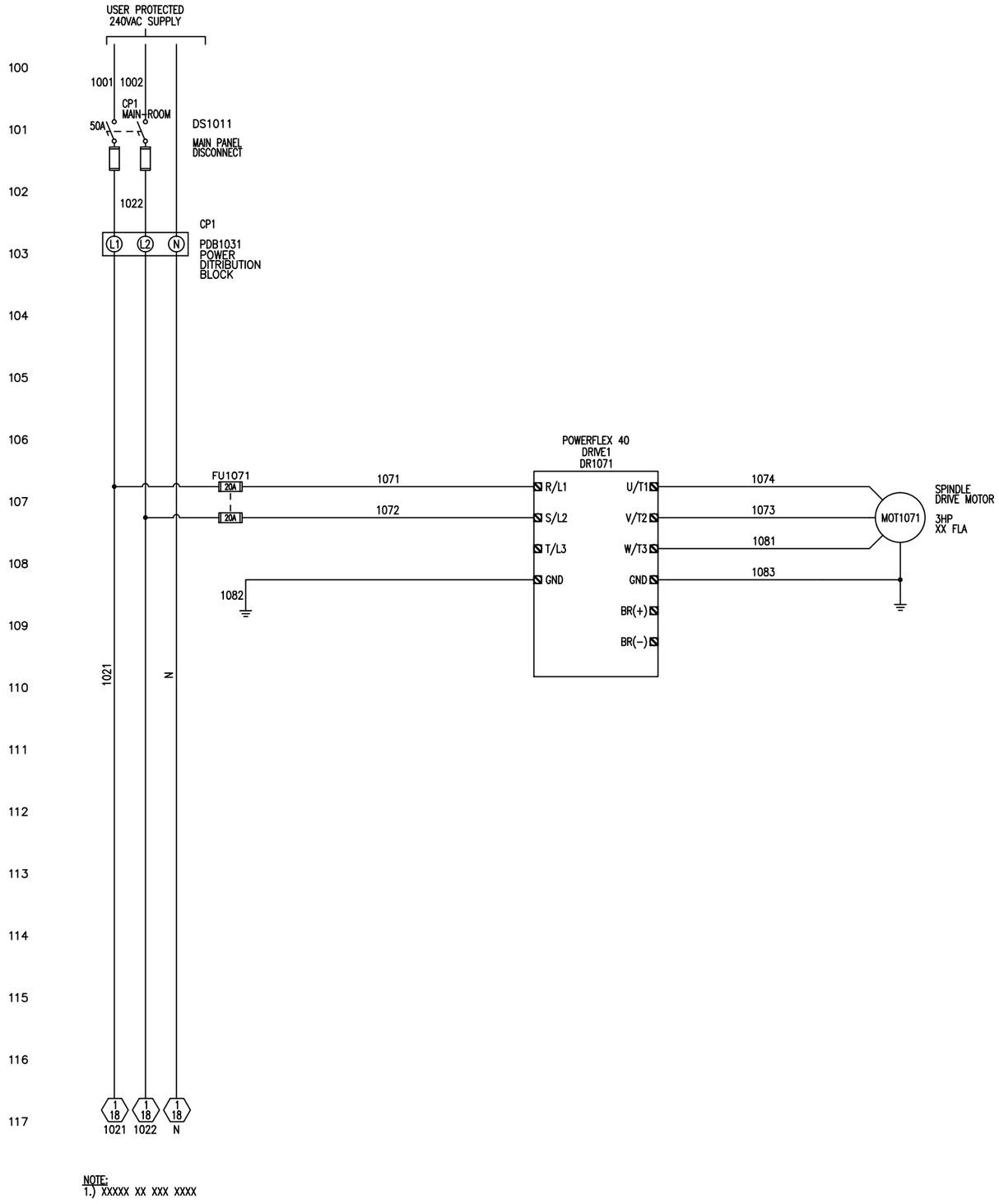
EMC2 BRIDGEPORT CONVERSION

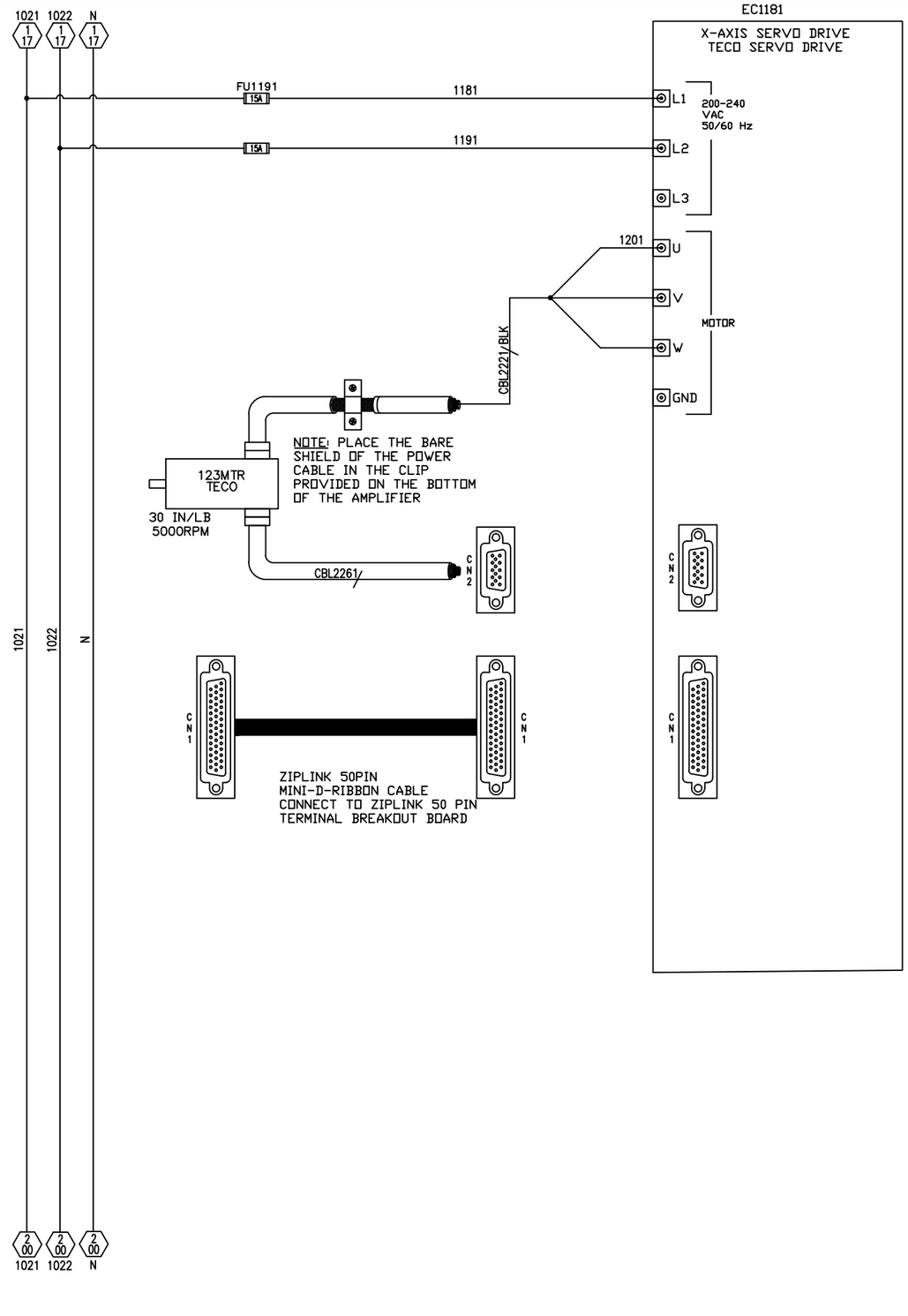
TITLE SHEET

DWN JPM DATE 07/2010
DWG NO 2010E-001 DWG REV 0
CUST SHEET 0 OF 11

CAD PART PF4_TITLE_SHEET.DWG

LAYERING SELECT: ECHO:

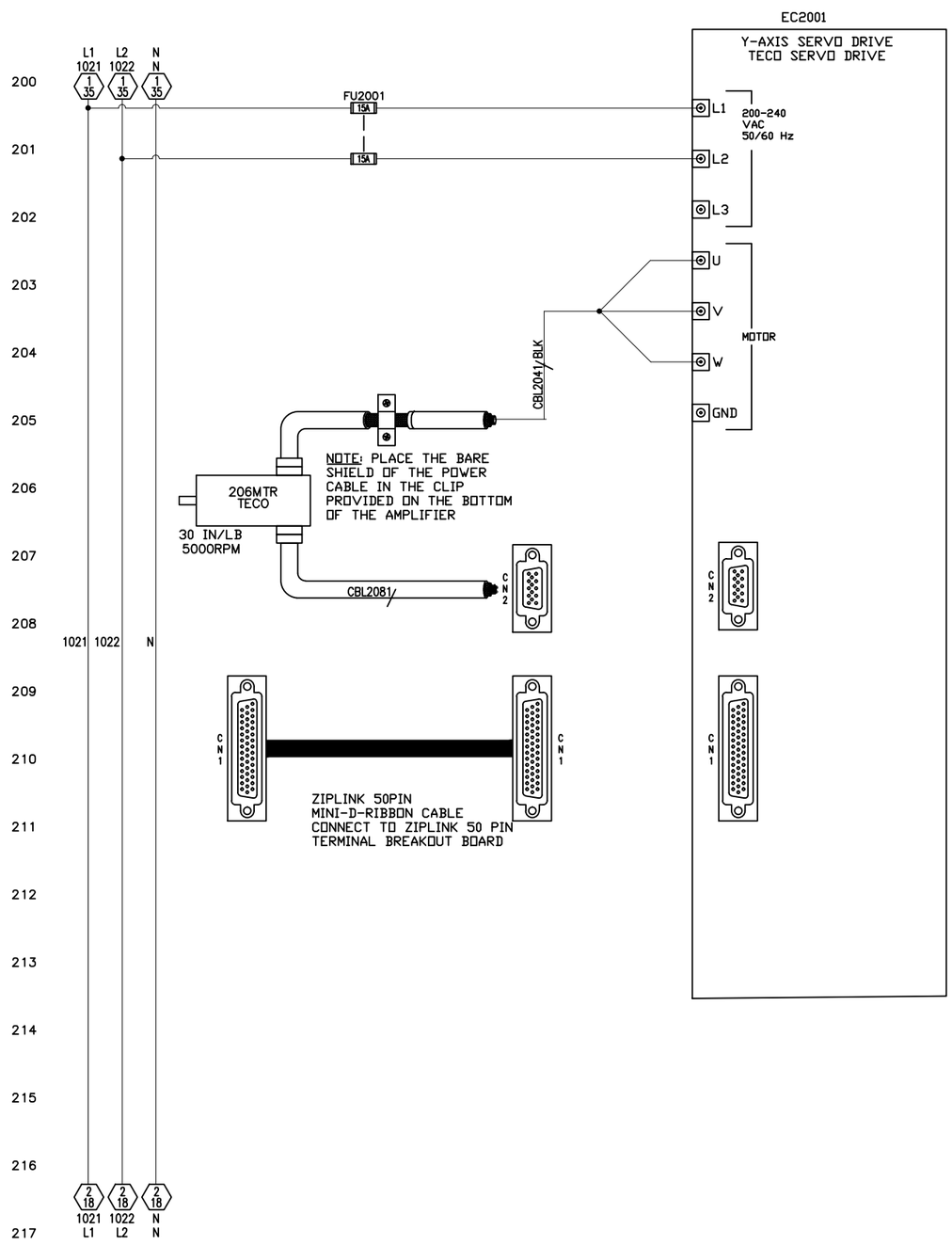


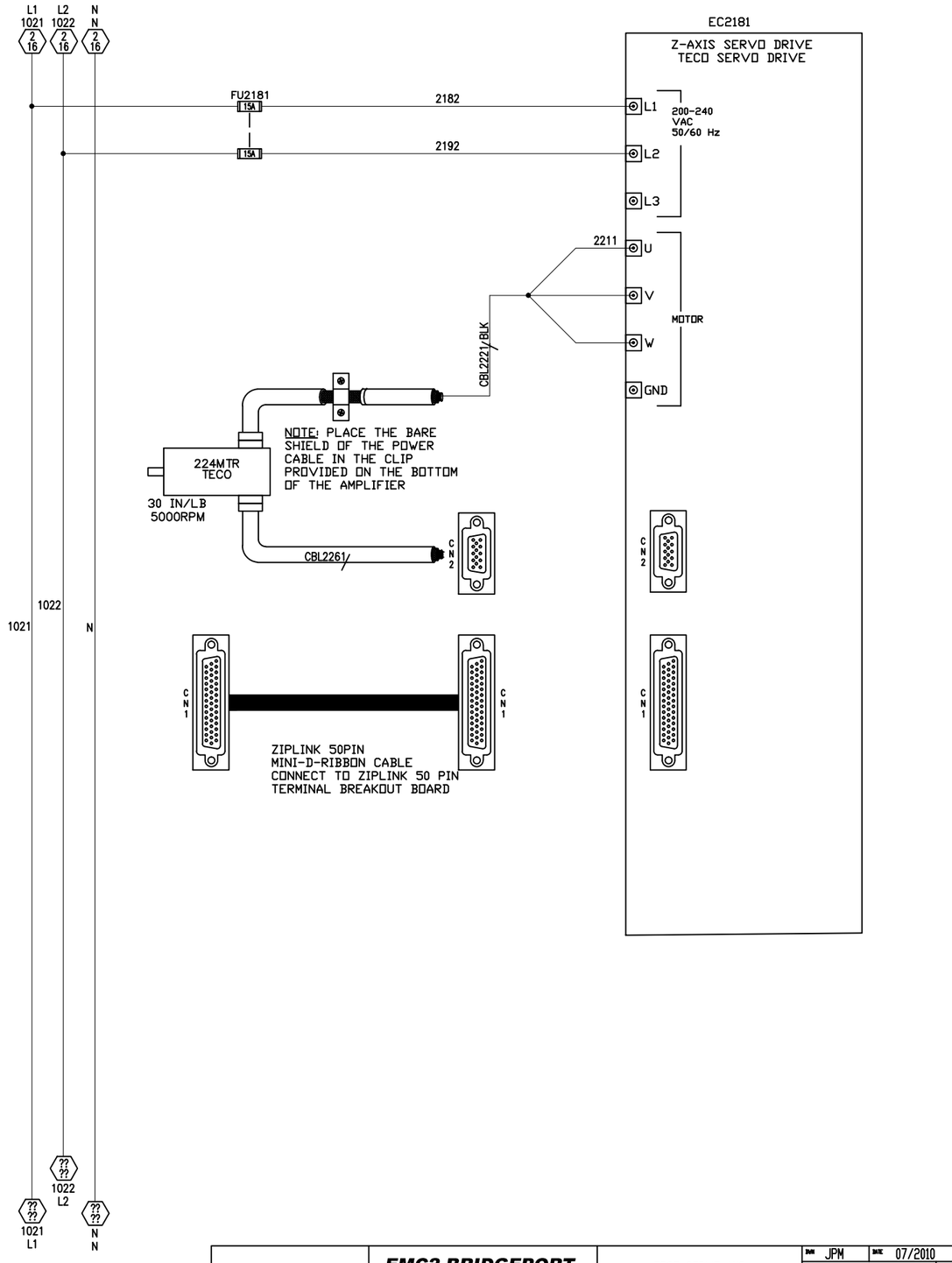


	EMC2 BRIDGEPORT CONVERSION	MAIN POWER DISTRIBUTION PF40 POWER WIRING	DWN JPM	DATE 07/2010
			DWG NO 2010E-001	DWG REV 1
		CUST	SHEET 1 OF 11	CAD

CAD PART PF4_40_40P_POWER.DWG

LAYERING SELECT: ECHO:





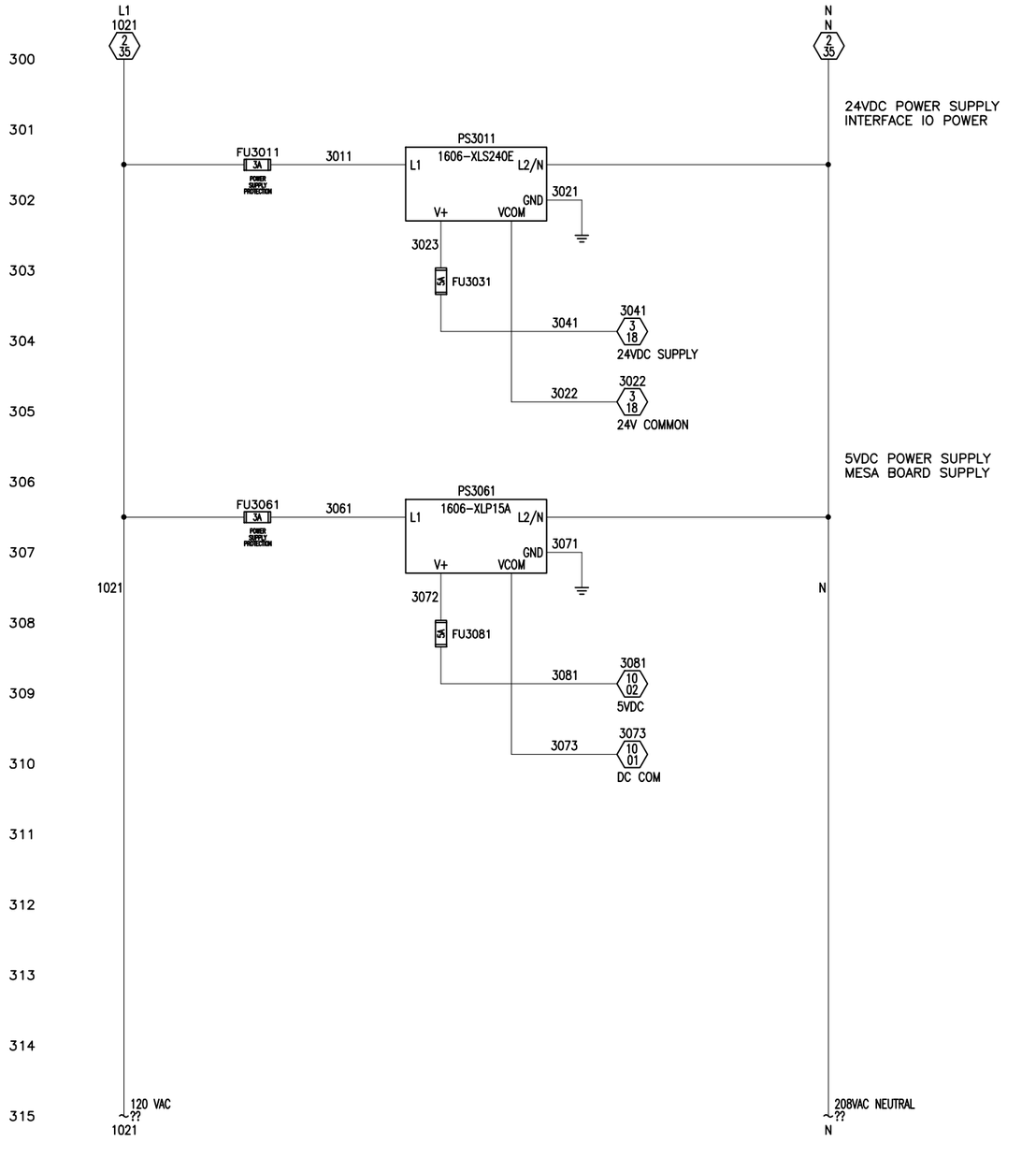
EMC2 BRIDGEPORT CONVERSION

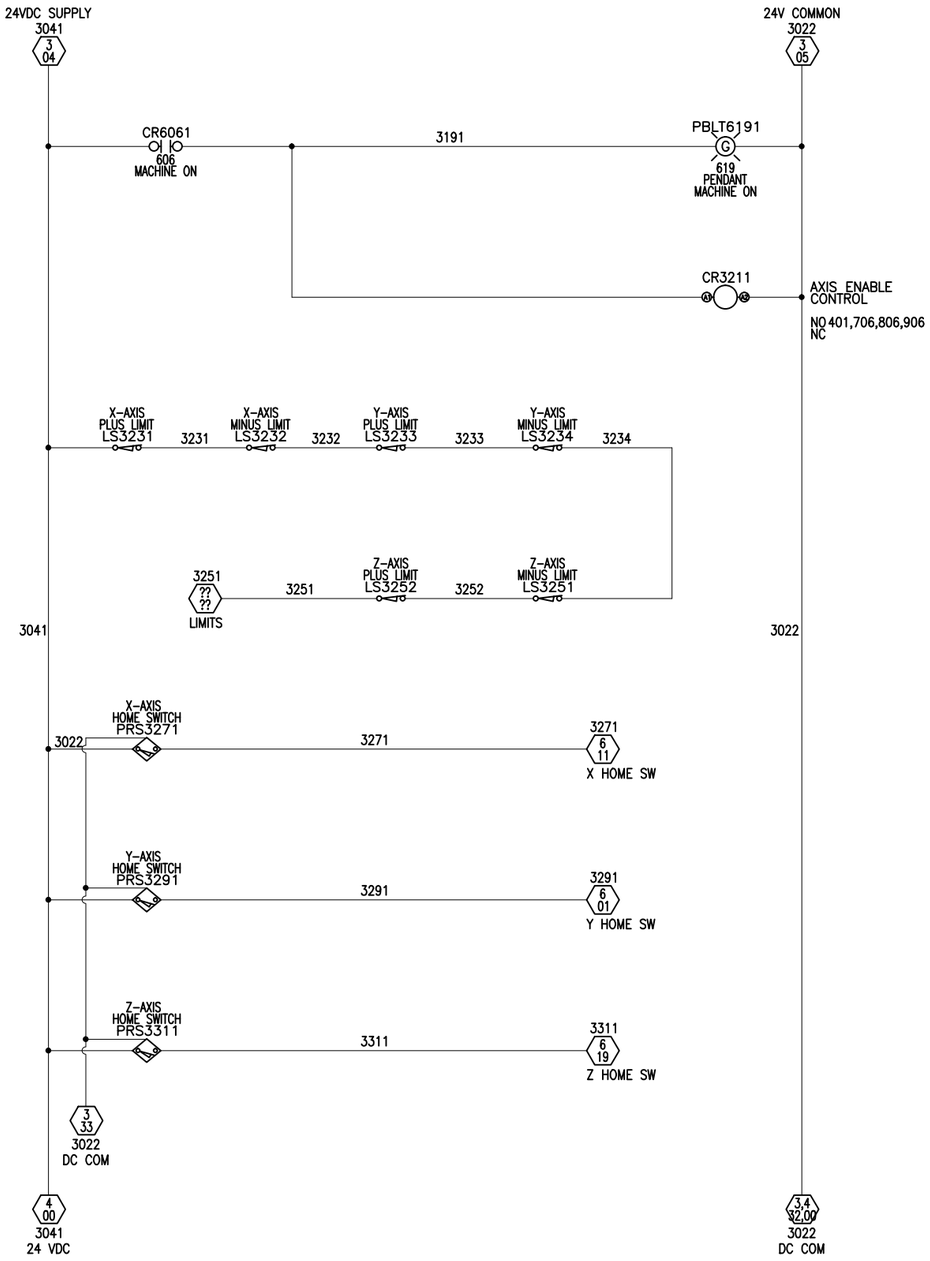
TECO SERVO AMP
POWER WIRING

DWN JPM | DATE 07/2010
DWG NO 2010E-001 | DWG REV 1
SHEET 2 OF 11

CAD PART PF400_POWER.DWG

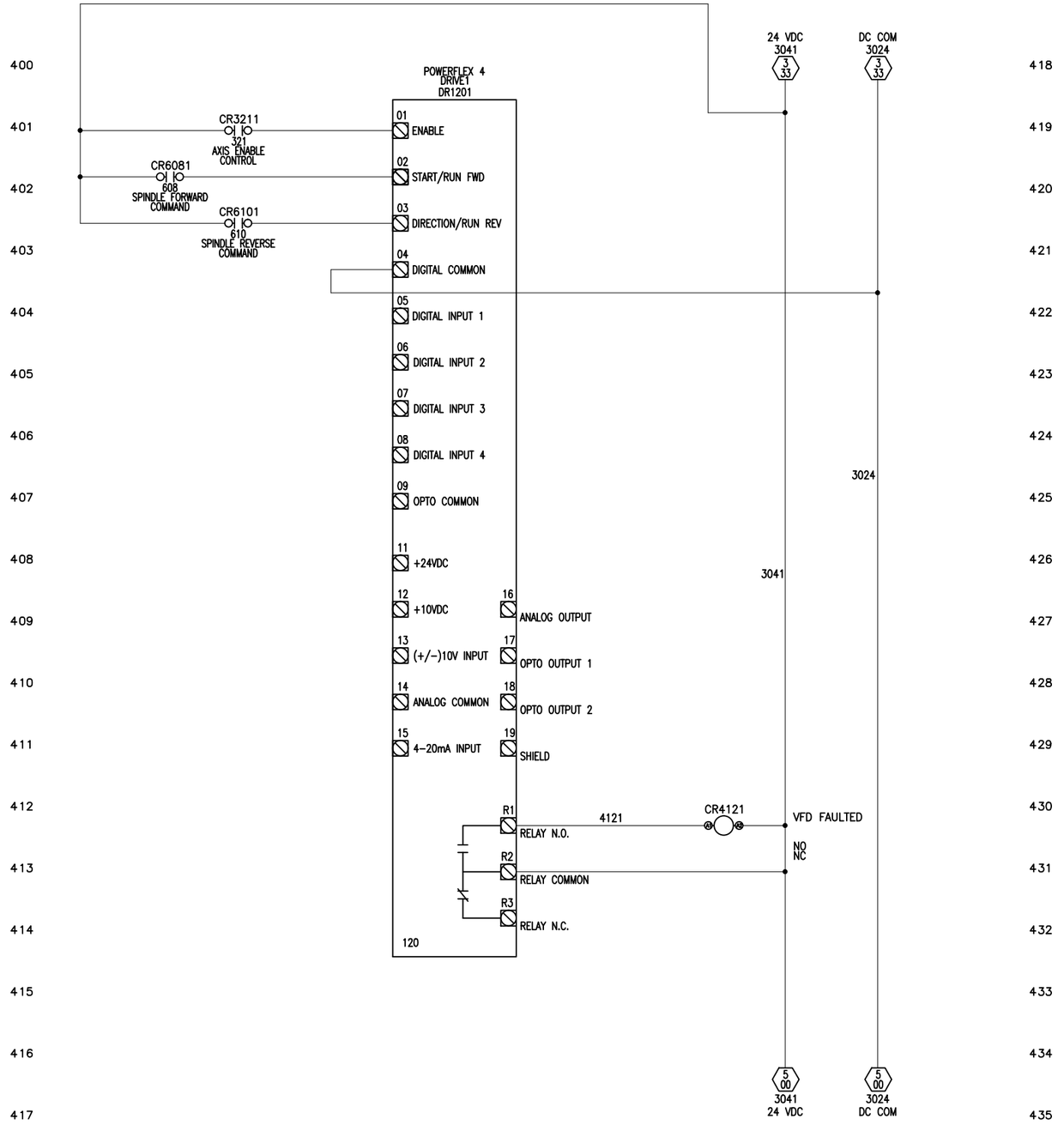
LAYERING SELECT: ECHO





	EMC2 BRIDGEPORT CONVERSION	DC POWER SUPPLIES ENABLE, HOME AND LIMIT CHAINS	DWN JPM	DATE 07/2010
			DWG NO 2010E-001	DWG REV 1
			SHEET 3 OF 11	CAD

CAD PART PF4_CONTROL_POWER.DWG | LAYERING SELECT: | ECN#:



400	401	402	403	404	405	406	407	408	409
410	411	412	413	414	415	416	417		
418	419	420	421	422	423	424	425	426	427
428	429	430	431	432	433	434	435		

EMC 2 BRIDGEPORT CONVERSION

VFD SPINDLE I/O WIRING

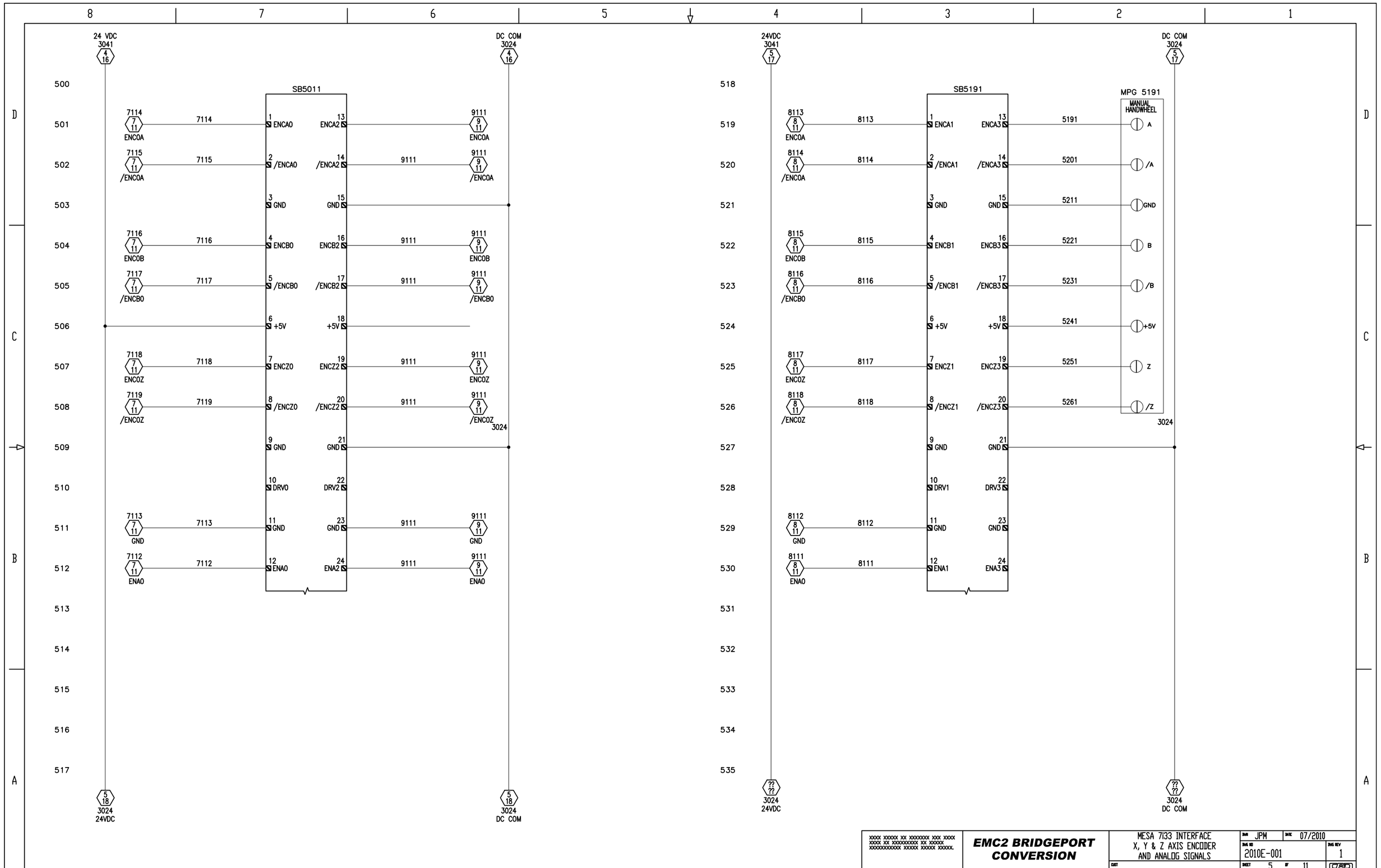
DWN JPM | DATE 07/2010

DWG NO 2010E-001 | DWG REV 1

SHEET 4 OF 11

CAD PART PF40_IO.DWG

LAYERING SELECT: ECMD



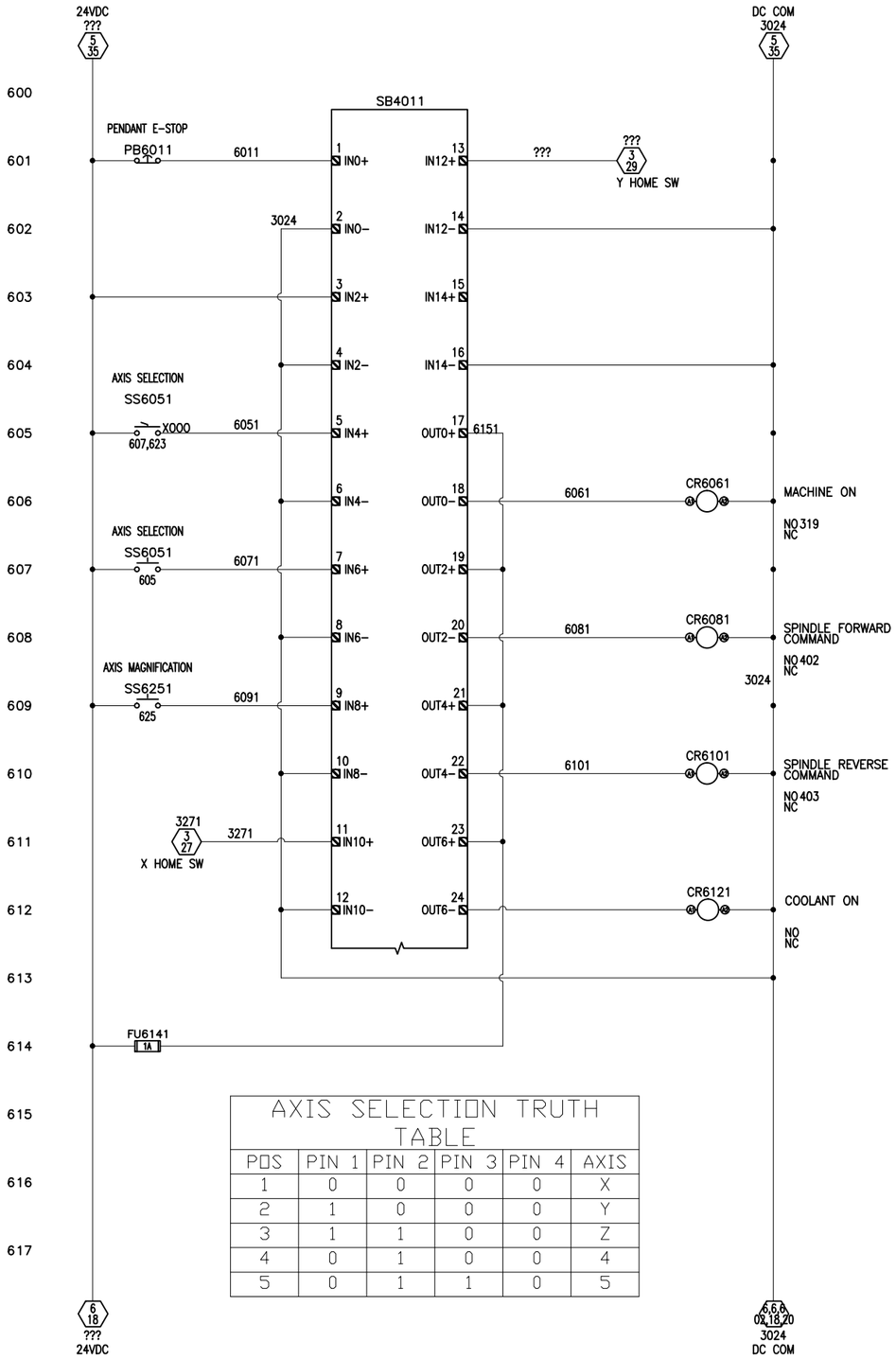
xxxx xxxxx xx xxxxxxx xxx xxxx xxxx xx xxxxxxxxx xx xxxxx xxxxxxxxxx xxxxx xxxxx xxxxx.

EMC2 BRIDGEPORT CONVERSION

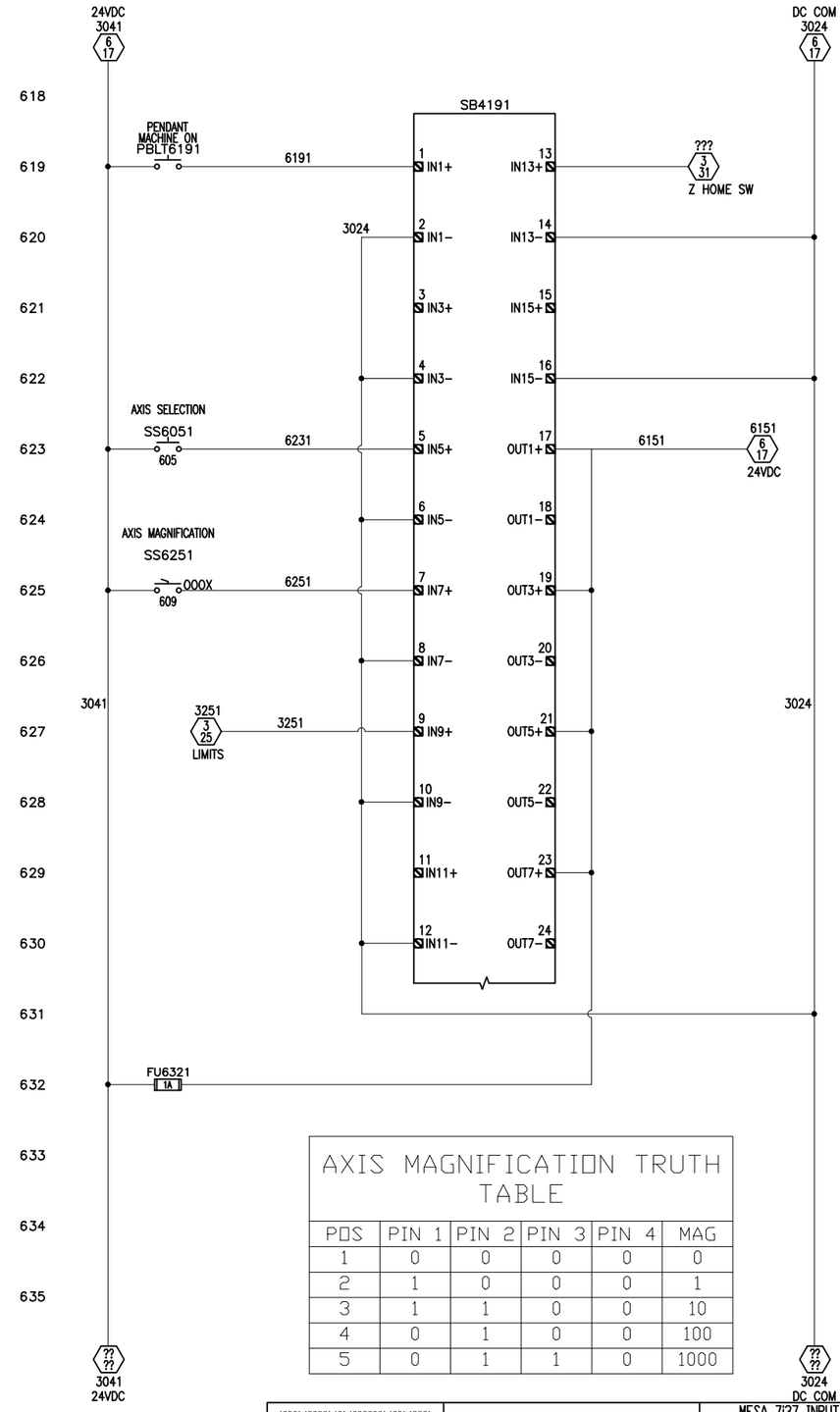
MESA 7133 INTERFACE
X, Y & Z AXIS ENCODER
AND ANALOG SIGNALS

DWN JPM | DATE 07/2010
DWG NO 2010E-001 | DWG REV 1
SHEET 5 OF 11

CAD PART PF4_IO.DWG
LAYERING SELECT: ECHO



AXIS SELECTION TRUTH TABLE					
POS	PIN 1	PIN 2	PIN 3	PIN 4	AXIS
1	0	0	0	0	X
2	1	0	0	0	Y
3	1	1	0	0	Z
4	0	1	0	0	4
5	0	1	1	0	5



AXIS MAGNIFICATION TRUTH TABLE					
POS	PIN 1	PIN 2	PIN 3	PIN 4	MAG
1	0	0	0	0	0
2	1	0	0	0	1
3	1	1	0	0	10
4	0	1	0	0	100
5	0	1	1	0	1000

xxxx xxxxx xx xxxxxxx xxx xxxx
xxxx xx xxxxxxxxx xx xxxxx
xxxxxxxxxx xxxxx xxxxx xxxxx.

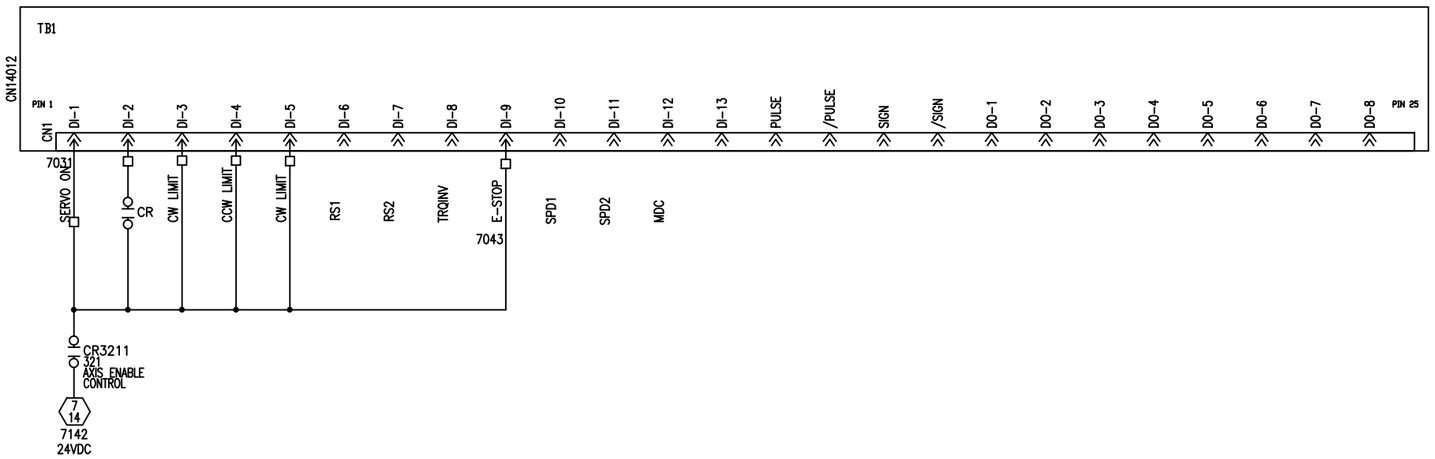
EMC2 BRIDGEPORT CONVERSION

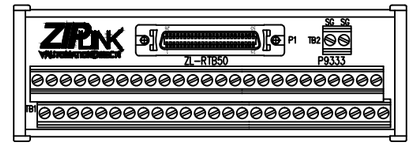
MESA 7i37 INPUT/OUTPUT WIRING

DWN JPM | DATE 07/2010
DWG NO 2010E-001 | DWG REV 1
SHEET 6 OF 11

CAD PART PF4_MONITORED_SAFETY_RELAY.DWG

LAYERING SELECT: ECHO





'CN1 CONNECTOR DETAIL'

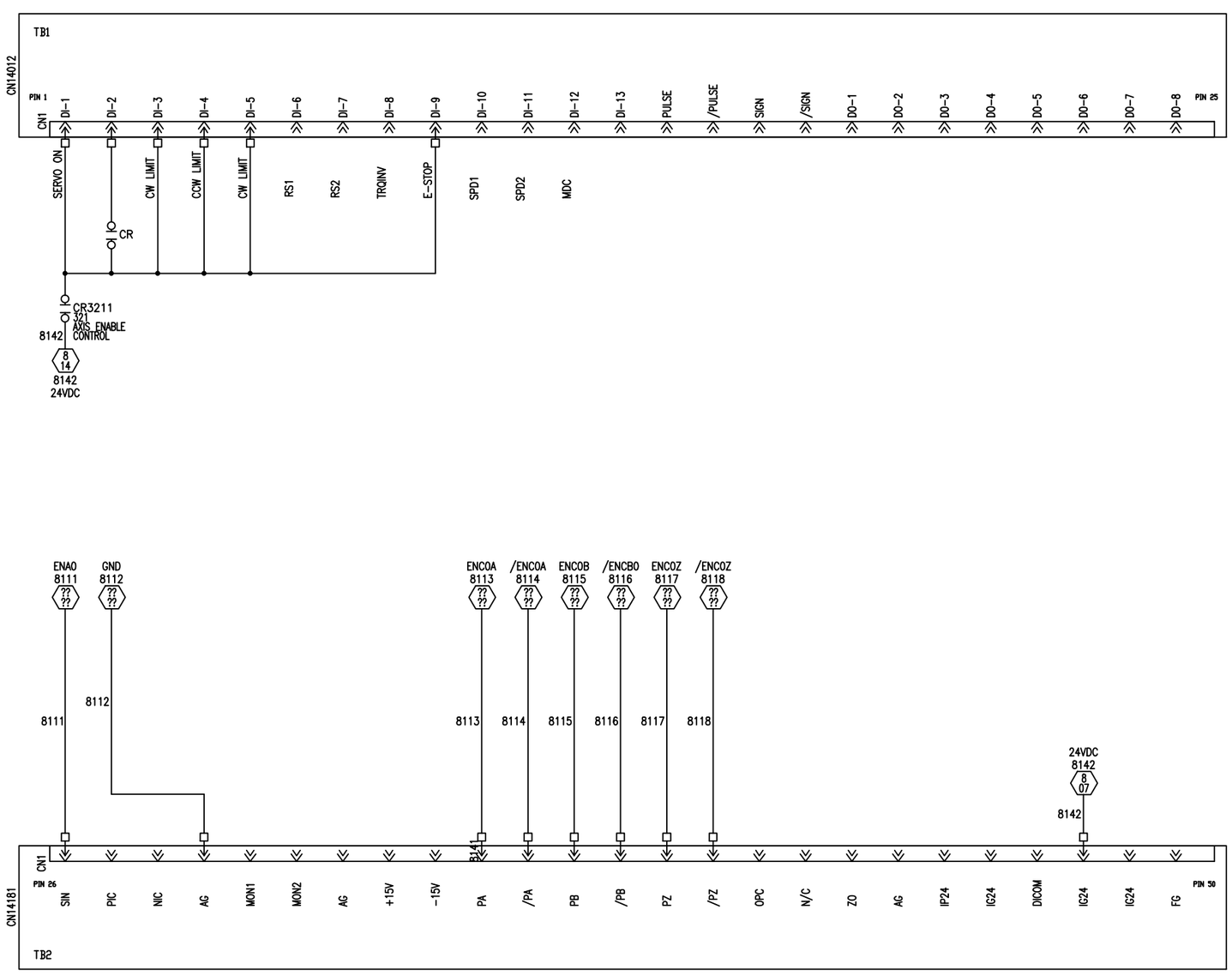
TERMINAL	SIGNAL	TERMINAL	SIGNAL
1	AM+	26	+LIMIT
2	AM−	27	IM−
3	BM+	28	TS
4	BM−	29	S1
5	IM+	30	S2
6	ECOM	31	EPWR_5V
7	EPWR_9V*	32	−LIMIT
8	S3	33	GROUND
9		34	
10		35	
11		36	
12		37	
13		38	
14		39	
15		40	
16		41	
17		42	
18		43	
19		44	
20		45	
21		46	
22		47	
23		48	
24		49	
25		50	

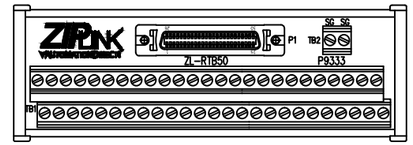
*NOTE: FOR USE WITH CABLES THAT DO NOT INCLUDE MOLDED CONNECTOR

xxxx xxxxxxx xx xxx xxxxxxxxx xx xxxxxxxx xxxxxxxxxx xx xxx xxxxxxxxxxx xxxxxxxxx xxxxx xx xxxxxxxxxxx xxx xxx xxxxxx xxxxxx xx xxxxxxxxx	**EMC2 BRIDGEPORT CONVERSION**	TECO SERVO X-AXIS ZIPLINK BREAKOUT BOARD WIRING	DWN JPM	DATE 07/2010
			DWG NO 2010E-001	DWG REV 1
			SHEET 7 OF 11	CAD

CAD PART CIMAT_L23_230_11_CONNECTOR_DETAIL_CN2.DWG

LAYERING SELECT: ECHO





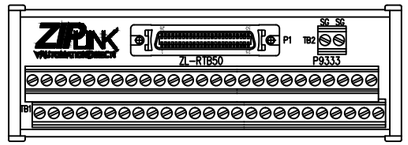
'CN1 CONNECTOR DETAIL'

TERMINAL	SIGNAL	TERMINAL	SIGNAL
1	AM+	26	+LIMIT
2	AM−	27	IM−
3	BM+	28	TS
4	BM−	29	S1
5	IM+	30	S2
6	ECOM	31	EPWR_5V
7	EPWR_9V*	32	−LIMIT
8	S3	33	GROUND
9		34	
10		35	
11		36	
12		37	
13		38	
14		39	
15		40	
16		41	
17		42	
18		43	
19		44	
20		45	
21		46	
22		47	
23		48	
24		49	
25		50	

*NOTE: FOR USE WITH CABLES THAT DO NOT INCLUDE MOLDED CONNECTOR

xxxx xxxxxxx xx xxx xxxxxxxxx xx xxxxxxxx xxxxxxxxx xx xxx xxxxxxxxxxx xxxxxxxxx xxxxx xx xxxxxxxxxxx xxx xxx xxxxxx xxxxxx xx xxxxxxxxx	**EMC2 BRIDGEPORT CONVERSION**	TECO SERVO Y-AXIS ZIPLINK BREAKOUT BOARD WIRING	DWN JPM DATE 07/2010 DWG NO 2010E-001 DWG REV 1 SHEET 8 OF 11 CAD

CAD PART CIMAT_L23_230_11_CONNECTOR_DETAIL_CN2.DWG | LAYERING SELECT: ECHO



'CN1 CONNECTOR DETAIL'

TERMINAL	SIGNAL	TERMINAL	SIGNAL
1	AM+	26	+LIMIT
2	AM−	27	IM−
3	BM+	28	TS
4	BM−	29	S1
5	IM+	30	S2
6	ECOM	31	EPWR_5V
7	EPWR_9V*	32	−LIMIT
8	S3	33	GROUND
9		34	
10		35	
11		36	
12		37	
13		38	
14		39	
15		40	
16		41	
17		42	
18		43	
19		44	
20		45	
21		46	
22		47	
23		48	
24		49	
25		50	

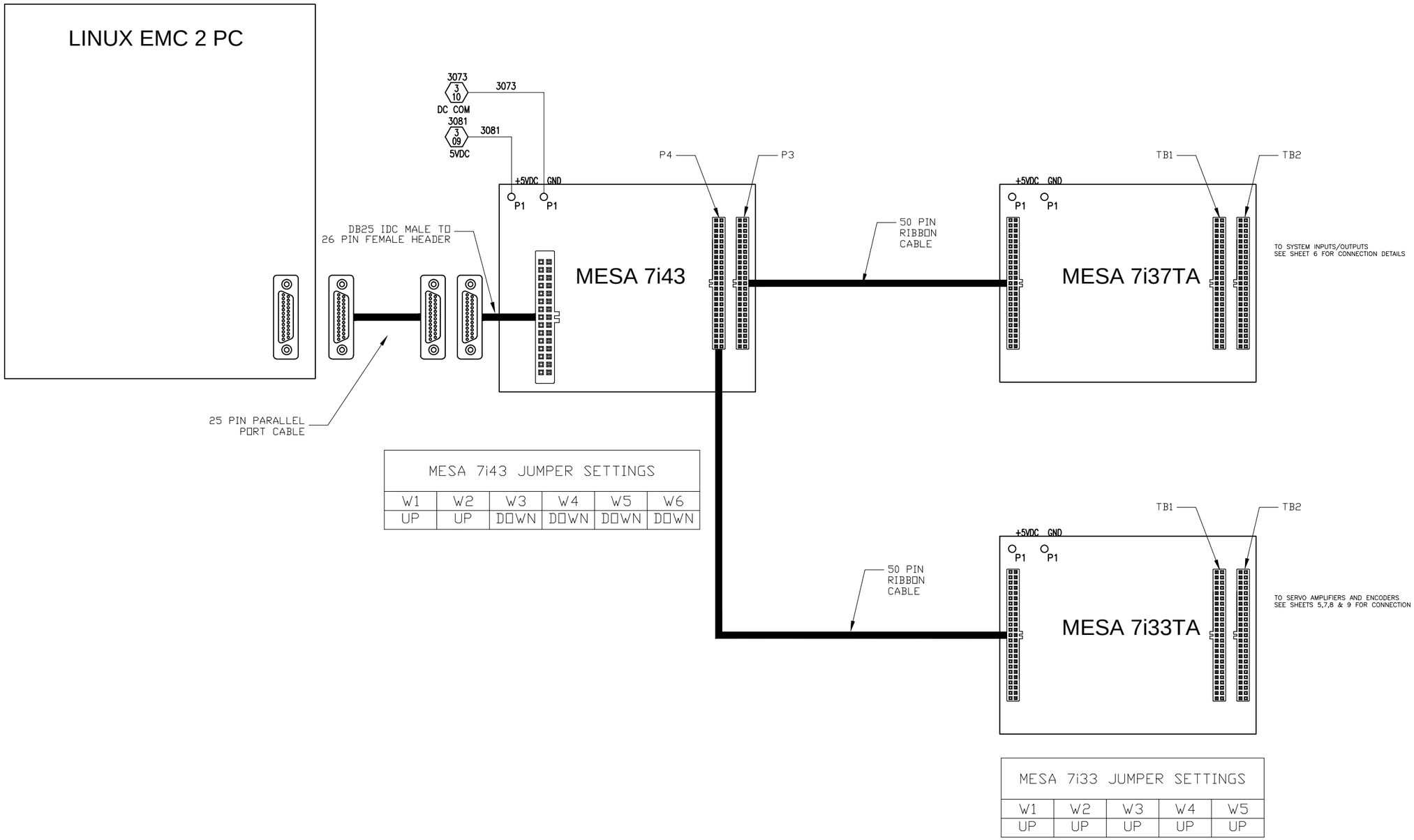
*NOTE: FOR USE WITH CABLES THAT DO NOT INCLUDE MOLDED CONNECTOR

xxxx xxxxxxx xx xxx xxxxxxxxx xx xxxxxxxx xxxxxxxxxx xx xxx xxxxxxxxxxx xxxxxxxxx xxxxx xx xxxxxxxxxxx xxx xxx xxxxxx xxxxxx xx xxxxxxxxx	**EMC2 BRIDGEPORT CONVERSION**	TECO SERVO Z-AXIS ZIPLINK BREAKOUT BOARD WIRING	DWN JPM	DATE 07/2010
			DWG NO 2010E-001	DWG REV 1
			SHEET 9 OF 11	CAD

CAD PART CIMAT_L23_230_11_CONNECTOR_DETAIL_CN2.DWG

LAYERING SELECT:

ECHD



MESA 7i43 JUMPER SETTINGS					
W1	W2	W3	W4	W5	W6
UP	UP	DOWN	DOWN	DOWN	DOWN

MESA 7i33 JUMPER SETTINGS				
W1	W2	W3	W4	W5
UP	UP	UP	UP	UP

EMC2 BRIDGEPORT CONVERSION

EMC2 HARDWARE LAYOUT

DWN JPM DATE 07/2010

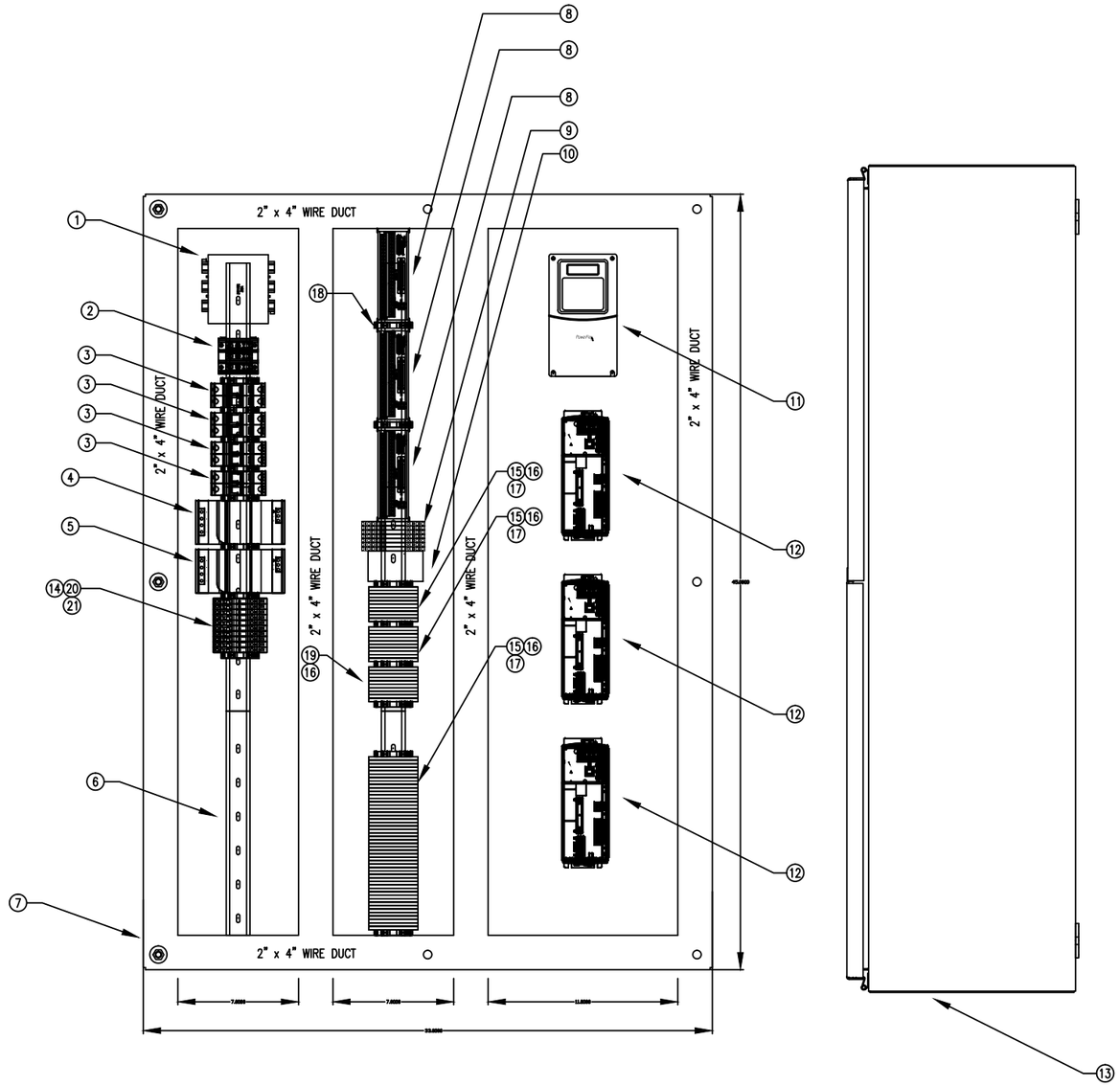
DWG NO 2010E-001 DWG REV 1

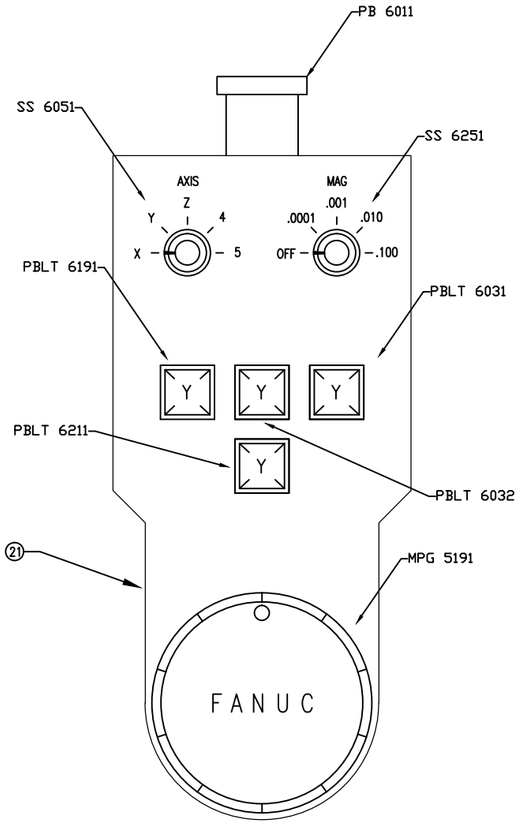
CUST SHEET 10 OF 11

CAD PART EMC2_Hardware_Layout.DWG

LAYERING SELECT: ECHO:

ITEM	QTY	DESCRIPTION	MFG	CATALOG
1	1	FUSIBLE DISCONNECT SWITCH 3P 30A	AB	194R-NJ030P3
2	1	POWER DISTRIBUTION TERMINAL	AB	1492-PDM3141
3	4	2-POLE FUSE BLOCK WITH INDICATOR CC FUSES	AB	1492-FB2C30L
4	1	POWER SUPPLY 24VDC 120/230VAC INPUT 5A	AB	1606-XLS-120E
5	1	POWER SUPPLY 5VDC 120/230VAC INPUT 3A	AB	1606-XLS-15A
6	2M	STANDARD DIN MOUNTING RAIL 35mm	AB	199-DR1
7	1	MOUNTING PANEL 45" X 33"	HAMM	18P4533
8	3	ZIPLINK 50 PIN BREAKOUT BOARD	AD	ZL-RTB50
9	8	TERMINAL BLOCK RELAY 1 FORM C CONTACT 24VDC	AB	700-HLT2Z24
10	1	IEC RELAY 6 NO 2 NC 24VDC	AB	700S-CF620DJC
11	1	POWERFLEX 40 AC DRIVE 240(208)VAC	AB	22B-XXXXXXX
12	3	TECO AC SERVO DRIVE 750W	TECO	TSTA-750W/300RPM
13	1	NEMA 12 CONTIONUS HINGE ENCLOSURE 48" X 36" X 12"	AB	1418S12
14	10	ZSI 2.5 FUSE BLOCK WITH LED 24VDC 5MM X 20MM FUSE	WEIDMULLER	173090000
15	70	ZDU 2.5-2 TENSION CLAMP FEED THROUGH TERMINAL BLOCK	WEIDMULLER	1772060000
16	4	ZAP/TW7 PARTITION PLATE	WEIDMULLER	1706110000
17	5	20 POLE JUMPER	WEIDMULLER	1908960000
18	18	END ANCHOR FOR STANDARD 35mm DIN	WEIDMULLER	WEW-35
19	10	ZPE 2.5-2 GROUNDING FEED THROUGH TERMINAL BLOCK	WEIDMULLER	1772090000
20	1	ZAP/TW3 PARTITION PLATE	WEIDMULLER	1608800000
20	1	ZAP TNHE/ZSI2.5 PARTITION PLATE	WEIDMULLER	1610840000
21	1	HAND HELD MACHINE PENDANT	EUCHNER	HBA-079 827
–	–	–	–	–
–	–	NARROW SLOT WIRING DUCT 2X4in. WHITE	IBOCO	T1E2240-W
–	–	NARROW SLOT WIRING DUCT COVER 2in. WHITE	IBOCO	COV-22





XXXX XXXXX XX XXXXXXX XXX XXXX XXXX XX XXXXXXXX XX XXXXX XXXXXXXXXX XXXXX XXXXX XXXXX.	**EMC2 BRIDGEPORT CONVERSION**	PANEL LAYOUT AND BILL OF MATERIAL	DWN JPM DATE 07/2010 DWG NO 2010E-001 DWG REV 1 CHKD SHEET 11 OF 11 CAD

CAD PART EMC2_Panel_Layout

LAYERING SELECT: ECHD